

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested. Claim 13 is amended, and claims 1-39 are pending in the application.

It is believed that claim 13 as amended overcomes the rejection under 35 USC §112, second paragraph. Hence, this rejection should be withdrawn.

Claims 1, 12, 19 and 30 stand rejected under 35 USC §102(e) in view of U.S. Patent No. 6,314,531 to Kram. These rejections are respectfully traversed.

Each of the independent claims 1, 12, 19 and 30 specify emulation in a protocol emulator, where IP frames are promiscuously detected on a network interface. An executable emulation application within the protocol emulator generates, *for each corresponding detected IP frame*, a response IP frame. Each response IP frame is output *by a raw socket onto the network interface*.

As described in the specification (e.g., page 2, lines 17-23, page 3, lines 1-3), the promiscuous detection of IP frames on the network interface eliminates the necessity for conventional IP filtering of received IP frames that normally is performed by a UNIX kernel. Moreover, the generation of a response IP frame *for each corresponding detected IP frame* by the executable emulation application results in the executable emulation application being able to emulate an unlimited number of IP devices, since a UNIX descriptor is no longer needed for each and every IP address emulated by the protocol emulator; rather, the executable emulation application generates a response IP frame for *each detected IP frame*, regardless of IP address. Finally, each response IP frame is output by the raw socket onto the network interface, enabling kernel resources to be bypassed, further reducing the reliance on operating system resources such as the UNIX kernel.

These and other features are neither disclosed nor suggested in the applied prior art.

Kram does not disclose or suggest: (1) generating, *for each corresponding (promiscuously) detected IP frame*, a response IP frame by an executable emulation application, or (2) outputting each said response IP frame by a *raw socket* onto the network interface.

In fact, Kram specifically avoids generating a response IP frame for *each promiscuously detected IP frame* by (1) filtering the promiscuously detected packets based on MAC addresses

or IP addresses, *and* (2) selectively dropping packets based on whether the emulation model specifies that a link is “down”, or due to a “transient outage”.

Figure 4 of Kram illustrates the data flow between functional components of the emulator. Although a promiscuous reader 403 examines all packets seen by the directly connected network interfaces, the reader 403 is coupled to filter 405 that filters out packets:

This reader [403] is coupled to a filter 405 which filters out all packets not containing one of the MAC addresses of the emulator host. It also filters out all packets containing the IP address of the emulator host ***because these packets are destined to other processes on the emulator host***. The filter passes on to the simulation component 407 all packets containing the MAC address of the emulator host and an IP address of one of the test computers.

(Column 6, lines 34-43).

Hence, Kram teaches that not all the packets that are promiscuously detected are forwarded to the simulation component 407; rather, Kram explicitly specifies that packets are not sent to the simulation component ***unless*** the packet specifies (1) one of the MAC addresses of the emulator host, *and* (2) an IP address of one of the test computers. Rather, Kram requires that packets are **excluded** from the simulation component 407 if they specify (1) a MAC address that is not assigned to the emulator host, or (2) the IP address of the emulator host.

Hence, any packet containing the IP address of the emulator host is ***filtered*** because it “***destined to other processes on the emulator host***”. Hence, it is impossible for Kram to teach “generating a response IP frame for ***each detected IP frame***”, as claimed.

For this reason alone the §102 rejection should be withdrawn because it fails to demonstrate that the applied reference discloses each and every element of the claim. See MPEP 2131. “The identical invention must be shown in as complete detail as is contained in the ... claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). “Anticipation cannot be predicated on teachings in the reference which are vague or based on conjecture.” Studiengesellschaft Kohle mbH v. Dart Industries, Inc., 549 F. Supp. 716, 216 USPQ 381 (D. Del. 1982), aff’d, 726 F.2d 724, 220 USPQ 841 (Fed. Cir. 1984).

Further, Kram cannot disclose the claimed generating a response IP frame *for each corresponding detected IP frame* because Kram describes that the simulation component **drops** the packet if the emulation model determines the link the packet is traversing (determined based on the source and destination IP addresses) is down (col. 6, lines 49-58); further, “if the link is up, the simulation component [407] computes whether the packet should be dropped (because of a transient outage) and if so the packet is **discarded**” (col. 6, lines 58-60).

Hence, Kram cannot teach the claimed generation of a response IP frame for each corresponding detected IP frame because Kram specifically requires that the emulator “**deliberately corrupt or fail to deliver (drop)** any specific packet or sequence of packets and thus introduce data corruption *and network outages of various durations...*” (col. 5, lines 59-61).

For this reason alone the §102 rejection should be withdrawn.

Further, Kram does not *generate any response IP frame*, at all. Rather, Kram describes that the network emulator simulates wide area network traffic conditions (e.g., latency, congestion, failed links, etc.) by delaying and dropping packets. As described above, Kram requires the periodic dropping of packets: the dropping of packets cannot be in any way be reasonably considered a response IP frame, especially since the packet is dropped.

Delaying or corrupting a packet as described at column 6, line 61 to col. 7, line 29 cannot be considered generating a *response IP frame*, because the only disclosed change that might occur to the original detected IP frame is corruption of the data frame. Kram replaces the destination MAC address for the original IP frame and outputs the original IP frame with the updated MAC address, and does not generate a response IP frame. “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).”

Further, any assertion that a corrupted frame could be considered a legitimate “response IP frame” that is generated for the corresponding detected IP frame is without foundation, and unreasonable because it is inconsistent with the specification or how one skilled in the art would interpret “response IP frame”. See MPEP § 2111.01 at 2100-37 (Rev. 1, Feb. 2000) (“claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the

specification in giving them their ‘broadest reasonable interpretation.’” (quoting In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983)(emphasis in original))). Cf. In re Cortright, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). Regardless, Kram teaches that not all detected IP frames are delayed, corrupted, or dropped, hence Kram cannot disclose the claimed generating a response IP frame for each corresponding detected IP frame.

For this reason alone the §102 rejection should be withdrawn.

Finally, Kram does not teach the claimed “outputting *said each response IP frame*”, let alone outputting by a *raw socket* onto the network interface, let alone “for transmission on the network” (see claim 12). In fact, the assertion that Kram discloses a raw socket is misplaced, especially since Kram provides no reference whatsoever to *any* socket, let alone a raw socket, as claimed.

For these and other reasons, the §102 rejection should be withdrawn.

The indication of allowable subject matter in claims 2-11, 13-18, 20-29, and 31-39 is acknowledged with appreciation. It is believed these claims are allowable in view of the foregoing.

In view of the above, it is believed this application is in condition for allowance, and such as Notice is respectfully solicited.

To the extent necessary, Applicant petitions for an extension of time under 37 C.F.R. 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including any missing or insufficient fees under 37 C.F.R. 1.17(a), to Deposit Account No. 50-1130, under Order No. 95-451, and please credit any excess fees to such deposit account.

Respectfully submitted,



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